

## CLAIMS

What is claimed is:

1. A method for producing acidic electrolytic water and alkaline electrolytic water, comprising:
  - (a) providing an electrolytic apparatus having:
    - (i) an intermediate chamber;
    - (ii) an anode chamber, wherein the interior of the anode chamber and the interior of the intermediate chamber are connected by holes in the side of the anode chamber and the side of the intermediate chamber;
    - (iii) a cathode chamber, wherein the interior of the cathode chamber and the interior of the intermediate chamber are connected by holes in the side of the cathode chamber and the side of the intermediate chamber;
    - (iv) a membrane between the anode chamber and the intermediate chamber;
    - (v) a membrane between the cathode chamber and the intermediate chamber;
    - (vi) an anode electrode plate in the anode chamber; and
    - (vii) a cathode electrode plate in the cathode chamber; and
  - (b) electrolyzing water by the steps of:
    - (i) causing an electrolytic solution to flow in the intermediate chamber;
    - (ii) producing acidic electrolytic water by:
      - (A) dividing the feed water supplied to the anode chamber into water for electrolysis and water not for electrolysis;
      - (B) conducting said water for electrolysis through the anode chamber to be electrolyzed;
      - (C) electrolyzing the water for electrolysis by charging the anode plate with at least 1500 coulombs of direct current per liter of water for electrolysis, thereby producing acidic electrolytic water; and
      - (D) mixing the acidic electrolytic water discharged from the anode chamber with the water not for electrolysis in a proportion to produce acidic electrolytic water of a desired pH; and

- (iii) producing alkaline electrolytic water by:
  - (A) dividing the feed water supplied to the cathode chamber into water for electrolysis and water not for electrolysis;
  - (B) conducting said water for electrolysis through the cathode chamber to be electrolyzed;
  - (C) electrolyzing said water for electrolysis by charging the cathode plate with at least 1500 coulombs of direct current per liter of water for electrolysis, thereby producing alkaline electrolytic water; and
  - (D) mixing the alkaline electrolytic water discharged from the cathode chamber with the water not for electrolysis in a proportion to produce alkaline electrolytic water of a desired pH.
- 2. The method of claim 1, wherein the membrane between the anode chamber and the intermediate chamber is an anion exchange membrane.
- 3. The method of claim 1, wherein the membrane between the cathode chamber and the intermediate chamber is a cation exchange membrane.
- 4. The method of claim 1, wherein the anode chamber contains at least two anode electrode plates.
- 5. The method of claim 1, wherein the cathode chamber contains at least two cathode electrode plates.
- 6. The method of claim 1, wherein the anode chamber is subdivided into a chamber which contains an anode electrode plate and through which the water for electrophoresis is conducted, and a chamber through which water not for electrophoresis is conducted.
- 7. The method of claim 1, wherein the cathode chamber is subdivided into a chamber which contains a cathode electrode plate and through which the water for electrophoresis is conducted, and a chamber through which water not for

electrophoresis is conducted.

8. The method of claim 1, wherein the membrane between the anode chamber and the intermediate chamber is adhered to a rigid plate.
9. The method of claim 8, wherein the rigid plate is made of synthetic resin or ceramic.
10. The method of claim 1, wherein the membrane between the cathode chamber and the intermediate chamber is adhered to a rigid plate.
11. The method of claim 10, wherein the rigid plate is made of synthetic resin or ceramic.
12. The method of claim 1, wherein the intermediate chamber is formed by contacting two rigid plates held together, and wherein each of the rigid plates has striped depressions and projections on the intermediate chamber side with holes in these depressions, and wherein the ends of the projections on one rigid plate contact the end of the projections on the other rigid plate, thereby forming a channel for electrolytic solution to flow through the intermediate chamber, and wherein the membranes are adhered to the outer surfaces of the rigid plates.
13. An apparatus for producing acidic electrolytic water and alkaline electrolytic water, comprising:
  - (i) an intermediate chamber, through which an electrolytic solution flows;
  - (ii) an anode chamber, wherein the interior of the anode chamber and the interior of the intermediate chamber are connected by holes in the side of the anode chamber and the side of the intermediate chamber, and through which water for electrolysis flows;
  - (iii) a cathode chamber, wherein the interior of the cathode chamber and the interior of the intermediate chamber are connected by holes in the side of the cathode chamber and the side of the intermediate chamber, and through which water for electrolysis flows;
  - (iv) a membrane between the anode chamber and the intermediate chamber;
  - (v) a membrane between the cathode chamber and the intermediate

chamber;

- (vi) an anode electrode plate in the anode chamber; and
- (vii) a cathode electrode plate in the cathode chamber.

- 14. The apparatus of claim 13, wherein the membrane between the anode chamber and the intermediate chamber is an anion exchange membrane.
- 15. The apparatus of claim 13, wherein the membrane between the cathode chamber and the intermediate chamber is a cation exchange membrane.
- 16. The apparatus of claim 13, wherein the anode chamber contains at least two anode electrode plates.
- 17. The apparatus of claim 13, wherein the cathode chamber contains at least two cathode electrode plates.
- 18. The apparatus of claim 13, wherein the anode chamber is subdivided into a chamber which contains an anode electrode plate and through which the water for electrophoresis is conducted, and a chamber through which water not for electrophoresis is conducted.
- 19. The apparatus of claim 13, wherein the cathode chamber is subdivided into a chamber which contains a cathode electrode plate and through which the water for electrophoresis is conducted, and a chamber through which water not for electrophoresis is conducted.
- 20. The apparatus of claim 13, wherein the membrane between the anode chamber and the intermediate chamber is adhered to a rigid plate.
- 21. The apparatus of claim 20, wherein the rigid plate is made of synthetic resin or ceramic.
- 22. The apparatus of claim 13, wherein the membrane between the cathode chamber and the intermediate chamber is adhered to a rigid plate.

23. The apparatus of claim 22, wherein the rigid plate is made of synthetic resin or ceramic.
24. The apparatus of claim 13, wherein the intermediate chamber is formed by contacting two rigid plates held together, and wherein each of the rigid plates has striped depressions and projections on the intermediate chamber side with holes in these depressions, and wherein the ends of the projections on one rigid plate contact the end of the projections on the other rigid plate, thereby forming a channel for electrolytic solution to flow through the intermediate chamber, and wherein the membranes are adhered to the outer surfaces of the rigid plates.